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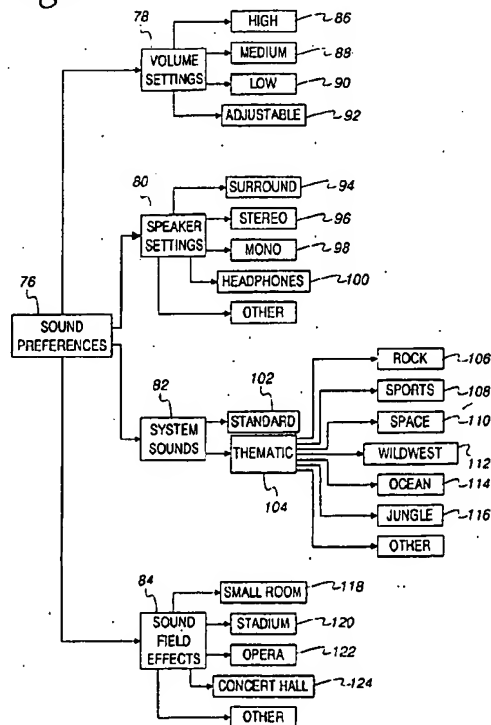
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(54) **Selectable audio preferences for a gaming machine**

(57) A wagering gaming system comprises a gaming terminal and a sound processing system. The gaming terminal conducts a wagering game and the player is allowed to select sound preferences in connection with the wagering game. The sound processing system

is adapted to process audio data in response to user selections of sound preferences other than a master volume preference. According to some embodiments, a user is able to make selections regarding sound aspects such as speaker settings, system sounds, sound field effects, and sound tones.

Fig.4



Description

FIELD OF THE INVENTION

[0001] The present invention relates generally to a wagering gaming system and, more particularly, to a wagering gaming system having audio preferences that are customizable by a player, operator, or other user.

BACKGROUND OF THE INVENTION

[0002] Electronic gaming machines, such as mechanical reel slot machines, video slot machines, video poker machines, video bingo machines, video keno machines, and the like, have been a cornerstone of the gaming industry for several years. Generally, the popularity of such machines with players is dependent on the likelihood (or perceived likelihood) of winning money at the machine and the intrinsic entertainment value of the machine relative to other available gaming options. Where the available gaming options include a number of competing machines and the expectation of winning each machine is roughly the same (or perceived to be the same), players are most likely to be attracted to the most entertaining and exciting of the machines. Shrewd operators, consequently, strive to employ the most entertaining and exciting machines available because such machines attract frequent play and, hence, increase profitability to the operator.

[0003] To enhance a player's entertainment experience, wagering gaming machines often include special features such as enhanced payoffs, a "secondary" or "bonus" game which may be played in conjunction with a "basic" game, and attractive audio and/or visual effects accompanying the basic and bonus games. The bonus game may comprise any type of game, either similar to or completely different from the basic game, which is entered upon the occurrence of a selected event or outcome of the basic game. Generally, the bonus game provides a greater expectation of winning than the basic game. Further, attractive audio and/or visual effects accompany the basic and bonus games. Heretofore, the only sound preference operable by a user is a master volume control which controls the audio level, i.e., how loud or how soft the audio effects are.

[0004] Because wagering gaming machines are an important source of income for the gaming industry, operators continually search for new gaming strategies and features to distinguish their electronic gaming machines from competitors in the industry and to provide additional incentives for players to play longer and to return to the casino on their next trip. Accordingly, there is a continuing need for manufacturers to provide new sound techniques for enhancing the entertainment experience involved in the play of electronic gaming machines. The present invention is directed to satisfying this need.

SUMMARY OF THE INVENTION

[0005] Accordingly, a wagering gaming system comprises a gaming terminal and a sound processing system. The gaming terminal conducts a wagering game and the player is allowed to select sound preferences in connection with the wagering game. The sound processing system is adapted modify game sounds in accordance with sound preferences other than a master volume preference. According to some embodiments, a player is able to make selections regarding sound aspects such as speaker settings, system sounds, sound field effects, and sound tones.

[0006] In one embodiment of the present invention, the plurality of sound preferences include a sound field effect preference. In another embodiment, the plurality of sound preferences include a sound field effect preference and a system sounds preference. In another embodiment, the plurality of sound preferences include a sound field effect preference, a system sounds preference, and a speaker settings preference.

[0007] Each of the sound preferences includes at least two sound settings. An audio-emitting system is coupled to the sound processing system for producing sound. User inputs may be used to allow the selection of one of the sound preferences and one of the sound settings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The foregoing and other advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings.

[0009] FIG. 1 is a perspective drawing of a wagering gaming system.

[0010] FIG. 2 is a block diagram of a control system for operating the gaming system of FIG. 1.

[0011] FIG. 3 is a front view of a touch panel display showing buttons for selecting gaming options for the gaming system of FIG. 1.

[0012] FIG. 4 is a block diagram showing sound preferences for the gaming system of FIG. 1.

[0013] FIG. 5 is a front view of a touch panel display showing buttons for selecting the sound preferences of FIG. 4.

[0014] While the invention is susceptible to various modifications and alternative forms, specific embodiments have been shown by way of example in the drawings and will be described in detail herein. It should be understood, however, that the invention is not intended to be limited to the particular forms disclosed. Rather, the invention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0015] Turning now to the drawings, FIG. 1 depicts a

gaming terminal 10 operable to conduct a wagering game such as slots, poker, keno, bingo, dice games, card games, and the like. Generally, when playing a wagering game, the terminal 10 receives a wager from a player to purchase a play of the game. In response, the terminal 10 generates at least one random event using a random number generator ("RNG") and provides an award to the player for a winning outcome of the random event. Alternatively, the terminal 10 may be linked via a communication unit 11 to a remote host computer that generates the random event and transmits the event's outcome to the terminal 10. To portray the outcome to the player, the terminal 10 includes a video display 12, as shown, or a mechanical display. The video display 12 may be implemented with a CRT, LCD, plasma, or other type of video display known in the art. To allow the player to place wagers, make game selections, and otherwise operate the terminal 10, the terminal 10 includes a physical button panel 14 and/or a touch screen or touch panel 13 over the video display 12.

[0016] Operation of the terminal 10 is described in greater detail below in the context of a video slot game. The video slot game is implemented on the video display 12 on a number of video simulated spinning reels 16 with a number of pay lines 18. According to another embodiment of the invention, each of the pay lines 18 extends through one symbol on each of the reels 16. Generally, game play is initiated by inserting money in a bill acceptor 20, by inserting a credit card in a credit card acceptor 22, or by inserting a player card in a player card acceptor 24, and playing a number of credits, causing the terminal's central processing unit to activate a number of pay lines, in a multiple pay line embodiment, corresponding to the amount of money or number of credits played. The bill acceptor 20 can be an acceptor that accepts bills, coins, or both. In one embodiment, the player selects the number of pay lines to play by pressing a "Select Lines" touch key on the display 12. The player then chooses the number of coins or credits to bet on the selected pay lines by pressing a "Bet Per Line" touch key. The gaming terminal 10 can include a coin pay chute 26 for receiving coins after winning a game.

[0017] After activation of the pay lines, the reels 16 may be set in motion by pressing a "Spin Reels" touch key or, if the player wishes to bet the maximum amount per line, by using a "Max Bet Spin" touch key on the display 12. Alternatively, other mechanisms such as a lever 28 or push button may be used to set the reels in motion. The CPU uses a random number generator to select a game outcome (e.g., "basic" game outcome) corresponding to a particular set of reel "stop positions." The CPU then causes each of the reels 16 to stop at the appropriate stop position. Video symbols are displayed on the reels 16 to graphically illustrate the reel stop positions and to indicate whether the stop positions of the reels 16 represent a winning game outcome.

[0018] Winning basic game outcomes (e.g., symbol

combinations resulting in payment of coins or credits) are identifiable to the player by a pay table. In one embodiment, the pay table is affixed to the terminal 10 and/or displayed by the display 12 in response to a command by the player (e.g., by pressing a "Pay Table" touch key). A winning basic game outcome occurs when the symbols appearing on the reels 16 along an active pay line correspond to one of the winning combinations on the pay table. According to one embodiment, a winning signal can be displayed by a Light-Emitting Diode ("LED") 29, which is located above the display 12. A winning combination, for example, could be three or more matching symbols along an active pay line, where the award is greater as the number of matching symbols along the active pay line increases. If the displayed symbols stop in a winning combination, the game credits the player an amount corresponding to the award in the pay table for that combination multiplied by the amount of credits bet on the winning pay line. The player may collect the amount of accumulated credits by pressing a "Collect" touch key. In one implementation, the winning combinations start from the first reel (left to right) and span adjacent reels. In an alternative implementation, the winning combinations start from either the first reel (left to right) or the fifth reel (right to left) and span adjacent reels.

[0019] Included among the plurality of basic game outcomes may be one or more start-feature outcomes for triggering play of special features. A start-feature outcome may be defined in any number of ways. For example, a start-feature outcome may occur when a special start-feature symbol or a special combination of symbols appears on one or more of the reels 16. The start-feature outcome may require the combination of symbols to appear along an active pay line or may, alternatively, require that the combination of symbols appear anywhere on the display 12, regardless of whether the symbols are along an active pay line. The appearance of a start-feature outcome causes the CPU to shift operation from the video slot game to the special feature associated with that outcome.

[0020] In accordance with the present invention, the gaming terminal 10 includes one or more speakers 30 for emitting audio associated with the wagering game being played on the gaming terminal 10. The number of speakers 30 can vary, and the speakers 30 can be positioned in different speaker arrangements. For example, in one embodiment, three or more speakers 30 are used for emitting multi-channel audio associated with the wagering game in surround sound relative to a player in front of the terminal 10. Surround sound, described in more detail below, refers to the use of sound to envelop the player, making the player feel like he or she is in the middle of the action. The multi-channel audio allows the player to hear sounds that come or appear to come from around the player and may cause the player to become more captivated in the game experience. In one embodiment, the speaker arrangement for emitting

the audio in surround sound includes both a "front" speaker arrangement and a "surround sound" speaker arrangement. Any speakers 30 of the speaker arrangement may be linked to the terminal by wired or wireless connections.

[0021] In another embodiment, the front speaker arrangement can include a front left speaker and a front right speaker mounted within a cabinet of the gaming terminal 10; a single front center speaker; or a front left speaker, a front right speaker, and a front center speaker. The surround sound speaker arrangement can include a rear left speaker, a rear right speaker, and an optional rear center speaker, positioned generally behind the player.

[0022] In general, the speakers 30 provide full frequency response (e.g., from 20 Hz to 20,000 Hz). In addition to these speakers, the speaker arrangement may include another speaker, called a subwoofer, dedicated to lower frequency effects (e.g., 20 Hz to 120 Hz). The subwoofer may be placed anywhere near the terminal 10, including within the cabinet.

[0023] In one embodiment, the gaming terminal 10 includes an audio output receptacle 32 for connecting a headset or other audio device to the gaming terminal 10. Using a headset reduces the sound level for any non-players and may give the player a more individual gameplay experience. The output receptacle 32 can be adapted to receive more than one headset, as in the case where the wagering game is a multiplayer game, and/or to receive headset inputs of different sizes.

[0024] FIG. 2 is a block diagram of a control system suitable for operating gaming terminals according to the present invention. Money/credit detector 34 signals a CPU 36 when a player has inserted money or played a number of credits. The money may be provided by coins, bills, tickets, coupons, cards, etc. Using an input/output controller 38 to receive input from a device such as the button panel 14 (see FIG. 1) or the touch panel 13 (see FIG. 1), the player may select any variables associated with the wagering game (e.g., number of pay lines and bet per line in a video slot game) and place his/her wager to purchase a play of the game. In a play of the game, after the player operates a play switch 40, the CPU 36 generates at least one random event using a RNG and provides an award to the player for a winning outcome of the random event. The CPU 36 operates the display 12 to represent the random event(s) and outcome(s) in a visual form that can be understood by the player. In addition to the CPU 36, the control system may include one or more additional slave control units for operating additional video and/or mechanical displays.

[0025] Memory 42 stores control software, operational instructions and data associated with the gaming machine. In one embodiment, the memory 42 comprises read-only memory ("ROM") and battery-backed random-access memory ("RAM"). The memory 42 may also include auxiliary memory for storing audio and/or video data. It will be appreciated, however, that the memory

42 may be implemented on any of several alternative types of memory structures or may be implemented on a single memory structure. A payoff mechanism 44 is operable in response to instructions from the CPU 36 to award a payoff to the player. The payoff may, for example, be in the form of a number of credits. According to some embodiments of the present invention the payoff is determined by one or more math tables stored in the memory 42.

[0026] According to some embodiments of the present invention, a sound processing system receives and processes audio data for producing audio to be emitted from speakers 30. A sound processing system according to some embodiments of the present invention may comprise a sound processor 46, a central processing unit 36, or both a sound processor 46 and a central processing unit 36. The audio data may be input into the sound processing system as a first audio signal, with the sound processing system modifying the first audio signal based on sound preferences to produce a second audio signal. The second audio signal may then be forwarded to an audio-emitting system, such as speakers 30, to produce sound in accordance with the sound preferences. The first audio signal incorporates audio data from an audio data source. Examples of audio data sources include a memory, a remote host, or a user first audio source, such as a CD player or MP3 player provided by a user.

[0027] According to some embodiments of the present invention, the audio data is stored in the memory 42. The audio data may be stored in any of various surround sound formats, or stored in a basic format without surround sound. In some embodiments of the present invention, the CPU 36 operates a sound processor 46, which includes decoding circuitry and amplification circuitry suitable for the selected format, wherein the speakers 30 are arranged according to the selected format. Examples of digital and analog surround sound formats are discussed below.

[0028] In some embodiments, the CPU 36 receives information via the communication unit 11. The information can relate, for example, to upgrading the game, updating or transmitting audio data, scheduling hours of operation, or monitoring the use of the gaming machine. In one embodiment, the communication unit 11 can be connected to another computer via an Ethernet cable. Alternatively, the communication unit 11 is a receiving receptacle for a computer cable that can be connected when a technician works on the gaming terminal 10.

[0029] According to some embodiments of the present invention, the CPU 36 may be adapted to allow a user to select audio data to be processed and played back, to select sound preferences, or to select a combination of audio data and sound preferences. The sound processing system can be used, with or without the CPU 36, to receive a first audio signal, e.g., an audio signal stored in the memory 42 or a streaming audio signal, and modify the audio signal according to sound prefer-

ences selected by a user. Thus, a sound processing system modifies the inputted audio signal in accordance with user selections, and outputs a second, modified audio signal.

[0030] A gaming terminal 10 according to some embodiments of the present invention may be linked to a remote host computer over a network such as an Ethernet-based local area network ("LAN"). The terminal 10 may, in turn, select and process audio data and video data which may be stored in its memory. Game outcomes may be determined at the host computer or locally at the terminal 10. The host computer may transmit audio and/or video content to the terminal 10 which, in turn, receives, processes (e.g., decodes and amplifies), and plays back the received content on the fly. The transmitted content may be streamed so that the terminal 10 can start playing the content before all relevant data has been transmitted. For some embodiments of streaming to work, the terminal 10 must be able to collect the content and send it as a steady stream to an application that is processing the data and converting it to sound or images. If the streaming terminal 10 receives the content more quickly than required, it may save the excess content in a buffer.

[0031] Referring now to FIG. 3, a screen display is shown offering selectable choices 50 for selecting gaming options. The selectable choices 50 enable a player, operator, or other user to customize gaming settings. The selectable choices 50 may be provided as touch panel buttons positioned on the display 12. For example, in some embodiments of the present invention a main menu button 52 enables the player to access a submenu that includes a game options button 54, a video settings button 56, and a sound settings button 58. The selectable choices 50 may alternatively or additionally be selected using mechanical or electro-mechanical switches, such as a main menu switch 60, a game options switch 62, a video settings switch 64, and a sound settings switch 66. The mechanical switches can be located near the display 12 for easy access during gameplay. In another embodiment, the selectable choices 50 can be activated by a voice-activation mechanism. The sound settings button 58 or switch 66 includes a further submenu that provides the player with a sound preferences button 68 and one or more standard sound settings, such as a default A button 70, a default B button 72, and a default C button 74. Mechanical or electro-mechanical switches may be included for accessing and using a sound settings submenu.

[0032] Referring now to FIG. 4, a sound preferences setting 76 includes a number of customizable preferences. In one embodiment of the present invention, the sound preferences setting 76 includes a volume settings preference 78, a speaker settings preference 80, a system sounds preference 82, and a sound field effect preference 84.

[0033] The volume settings preference 78 allows for the control of a master game volume. According to one

embodiment of the present invention, the volume settings preference 78 allows a user to select one of at least four settings: a high setting 86, a medium setting 88, a low setting 90, and an adjustable setting 92. In response to the selected volume setting, the emitted audio will be louder or quieter. Furthermore, the volume settings preference 78 may have a muting option for preventing any emission of sound. The master volume 78 only controls the level of sound, not other characteristics of the sound, such as the sound tone, speaker settings, or sound field effects. For example, a sound tone preference that includes a bass setting and/or a treble setting can be included in addition to the volume settings preference 78, the speaker settings preference 80, the system sounds preference 82, and the sound field effect preference 84.

[0034] According to some embodiments of the present invention, the speaker settings preference 80 includes a surround setting 94, described in more detail below; a stereo setting 96 for transmitting audio separated into two audio channels; a mono setting 98, for transmitting audio in a single audio channel; and a headphones setting 100, for using a headset. Other settings may also be included according to particular requirements.

[0035] The surround setting 94 can include a number of available surround sound formats. One example of a surround sound format that can be used in conjunction with the surround setting 94 is DOLBY DIGITAL™ (formerly Dolby AC-3) by Dolby Laboratories, Inc. DOLBY DIGITAL™ is a digital surround sound format suitable for audio data when it is stored in a digital section of the memory 42, such as on a DVD or laserdisc. DOLBY DIGITAL™ provides up to five discrete (independent) channels of full frequency effects (e.g., from about 20 Hz to about 20,000 Hz), plus an optional sixth channel dedicated to low frequency effects (e.g., from about 20 Hz to about 120 Hz). The five discrete channels include front center, front left, front right, surround left, and surround right. The center, front left, and front right channels generally carry dialogue, music, and sound effects, while the surround left and surround right channels provide surround sound and ambient effects. The sixth channel is usually reserved for a subwoofer speaker for reproducing the low frequency effects that may come with certain wagering games. During production, the audio data is stored in the memory 42 in DOLBY DIGITAL™ format, i.e., as compressed and encoded digital data. The stored digital data is encoded with information indicating the data stream to be transmitted through each sound channel. The CPU 36 includes a digital surround sound decoder that, during playback, decodes the stored digital data into multiple data streams transmitted through the sound channels.

[0036] An extended surround version of DOLBY DIGITAL™, called DOLBY DIGITAL EX™ or SURROUND EX™, encodes the audio data with a third surround channel (i.e., surround back channel) that can be decoded for playback over a rear center speaker placed

behind the player. Using matrix encoding technology, the surround back channel information is encoded into the surround left and right channels during production and later decoded (or derived) from the surround left and right channels during playback. Because of this matrix encoding scheme, the surround back channel is not a true discrete channel. This allows certain audio effects to be presented behind the player, thereby achieving more enveloping and complete 360° surround sound.

[0037] <http://timefordvd.com/ref/dts.shtml> DTS DIGITAL SURROUND™ by Digital Theatre Systems, Inc., is a competing and alternative digital surround sound format to DOLBY DIGITAL™. Like DOLBY DIGITAL™, DTS DIGITAL SURROUND™ provides up to five discrete channels of full frequency effects, plus an optional sixth channel dedicated to low frequency effects. DTS DIGITAL SURROUND™, however, offers higher data rates and, therefore, uses more of the capacity of the memory 42 than DOLBY DIGITAL™.

[0038] An extended surround version of DTS DIGITAL SURROUND™, called DTS-ES MATRIX™, encodes the audio data with a third surround channel (i.e., surround back channel) that can be decoded for playback over a rear center speaker placed behind the player. Yet another extended surround version of DTS DIGITAL SURROUND™, called DTS-ES DISCRETE 6.1™, supports a fully discrete surround back channel. That is, the surround back channel has its own data stream and is truly independent from those of the surround left and right channels.

[0039] DOLBY PRO-LOGIC™ by Dolby Laboratories, Inc., is an analog surround sound format that encodes four channels of audio information onto two stereo analog channels during production. The encoded two-channel audio data is stored in an analog section of the memory 42, such as on a Hi-Fi VHS tape. The four channels include front center, front left, front right, and mono surround. The front center channel, among other things, "anchors" any dialogue in a wagering game to the image shown on the video display 12. The CPU 36 includes an analog surround sound decoder that, during playback, uses a technique called matrixing to derive the front center channel and surround sound channel from the encoded two-channel audio data stored in the memory 42. The surround channel is limited in bandwidth to frequencies from 100 Hz to 7,000 Hz.

[0040] DOLBY SURROUND™ by Dolby Laboratories, Inc., is an analog surround sound format that encodes three channels of audio information onto two stereo analog channels. The three channels include front left, front right, and surround. Relative to DOLBY PRO-LOGIC™, DOLBY SURROUND™ gives up the front center channel along with some degree of fidelity in the surround channel.

[0041] Other surround formats are also contemplated. For example, instead of true surround sound that relies upon a surround channel delivering audio to a speaker behind or to the side of a player, the present

invention also contemplates "virtual" (3D) surround sound. Virtual surround sound relies upon virtual surround sound algorithms, such as QSound™ by QSound Labs, Inc., SRS™ (Sound Retrieval System) by SRS Labs, Inc., and other proprietary algorithms, which make use of only front left and right speakers and psycho-acoustic effects to emulate true surround sound formats.

[0042] According to some embodiments of the present invention, the system sounds preference 82 may be set to either a standard sound scheme 102 or a thematic sound scheme 104. According to one embodiment of the present invention, the standard sound scheme 102 utilizes generic sounds associated with casino games. The thematic sound scheme 104 may correspond to a theme chosen by the player, which is not necessarily the theme of the game. Some exemplary themes are a rock theme 106, a sports theme 108, a space theme 110, a wild west theme 112, an ocean theme 114, a jungle theme 116, or any other theme. For example, the jungle theme 116 may include a variety of intermittent animal noises, e.g., birds chirping, monkeys chattering, and tigers roaring, as well as a continuous soundtrack, e.g., African music. Theme music and sounds may be separately selected in some embodiments of the present invention.

[0043] The player may select the theme that the player prefers for a particular game according to some embodiments of the present invention regardless of whether the theme corresponds to the game. For example, even though the default theme for a wagering game may be the space theme 110, wherein the wagering game may be related to playing poker on a nearby planet, the player may select any one of the other themes, such as the jungle theme 116, for having a different gaming experience. The player has the option of selecting a different theme at any point during the game. Thus, if the action in the game changes, as it generally does when the player progresses to a different game level, the sound theme can be changed accordingly.

[0044] The sound field effect preference 84 allows a player to select a signal processing program to be used by a sound processing system for processing audio data. In some embodiments, the signal processing program can be a digital signal processing program. The signal processing programs produce different sound fields that are digital recreations of actual acoustic environments. Examples of sound fields include a small room effect 118, a stadium effect 120, an opera effect 122, and a concert hall effect 124. While the system sounds preference 82 is related to the choice of sounds transmitted, the sound field effect preference 84 is related to how the sound is perceived by the player. For example, the stadium effect 120 may add reverb (echo) to the sound to give the player a feeling of actually being in a large stadium. In contrast, the small room effect 118 may add little to no reverb to the sound for giving the player a more claustrophobic feeling, such as being in

a cramped space.

[0045] Referring now to FIG. 5, a touch panel 126 according to one embodiment of the present invention displays a sound preferences button 127 which has a menu including a sound field effect button 128, a system sounds button 130, a speaker settings button 132, and a volume settings button 134. Default settings may be employed, and the default buttons according to one embodiment of the present invention are shown in FIG. 5 with a double rectangle. The menu for the sound field effect button 128 includes a stadium effect button 136, a concert hall effect button 138, an opera effect button 140, a small room effect button 142, a church effect button 144, and a standard (default) effect button 146. The menu for the system sounds button 130 includes a standard button 148 and a thematic button 150, and the menu for the thematic button 150 includes a rock theme button 152, a sports theme button 154, a space theme button 156, a wild west theme button 158, an ocean theme button 160, and a jungle theme button 162. The menu for the speaker settings button 132 includes a surround button 164, a stereo button 166, a mono button 168, and a headphones button 170. The menu for the volume settings button 134 includes a high button 172, a medium button 174, a low button 176, and an adjustable button 178. The active default preferences in the embodiment of FIG. 5 are the standard effect button 146 for field effect, the standard button 148 for sound themes, the surround button 164 for speaker settings, and the medium button 174 for volume settings.

[0046] In some embodiments of the invention, the sound preferences selected by the player can be saved to a card, such as a casino card, that the player can use in different gaming machines. For example, after the player selects desired sound preferences at a gaming terminal 10, the player has the option of saving those sound preferences on the casino card, and using the casino card to load the sound preferences in a different gaming terminal 10.

[0047] The selection of the sound preferences 76 can be limited according to the type of user in some embodiments of the invention. An operator of the gaming terminal 10 may have unlimited access to the selection of sound preferences 76, while a player may have more limited access. For example, if the operator desires to maintain a sports theme throughout a casino, such as when an anticipated sporting event occurs, then the operator could limit the player's access to sports related preferences, e.g., the sports theme 108 and the stadium effect 120. Similarly, more complex settings such as speaker settings and surround settings may be reserved for operator control, with players having the option to change simpler settings such as a system sounds preference. Thus, the selection of the sound preferences can be divided in two classes, a first class that is accessible only to a player and a second class that is accessible only to the operator of the gaming terminal 10.

[0048] In another embodiment, the sound preferenc-

es 76 can include a choice for playing licensed music. For example, similarly to playing music on a jukebox, the player could pay an extra fee for selecting a particular licensed song. Alternatively, the player could bring personal music that can be played while playing a game, such as by connecting a personal music player (e.g., a compact disc player) or music media (e.g., a compact disc) to the gaming terminal 10.

[0049] While the present invention has been described with reference to one or more particular embodiments, those skilled in the art will recognize that many changes may be made thereto without departing from the spirit and scope of the present invention. Each of these embodiments and obvious variations thereof is contemplated as falling within the spirit and scope of the claimed invention, which is set forth in the following claims.

Claims

1. An electronic gaming system providing a game in response to a wager, comprising:

a gaming terminal adapted to conduct a wagering game;

a user input device allowing for selection of at least one sound preference, said at least one sound preference being a sound preference other than a master volume preference;

a sound processing system accepting input from said user input device and processing audio data in accordance with said at least one sound preference; and

an audio-emitting system coupled to said sound processing system and producing sound in accordance with said at least one sound preference.

2. The gaming system of claim 1, wherein said at least one sound preference is selected from a group consisting of a sound field effect preference, a system sounds preference, a speaker settings preference, and a sound tone preference, each sound preference including at least one sound setting.

3. The gaming system of claim 2, wherein said sound field effect preference includes at least one of a small room setting, a stadium setting, an opera setting, and a concert hall setting.

4. The gaming system of claim 2, wherein said system sounds preference includes a standard setting and a thematic setting.

5. The gaming system of claim 4, wherein said thematic setting includes at least one of a rock theme, a sports theme, a space theme, a wild west theme,

- an ocean theme, and a jungle theme.
6. The gaming system of claim 2, wherein said speaker settings preference includes at least one of a surround setting, a stereo setting, a mono setting, and a headphones setting. 5
 7. The gaming system of claim 2, wherein said system sounds preference includes at least one of a licensed music theme and a personal music theme. 10
 8. The gaming system of claim 1, wherein said gaming terminal is selected from a group consisting of a mechanical reel slot machine, a video slot machine, a video bingo machine, and a video keno machine. 15
 9. The gaming system of claim 1, wherein the sound processing system is a sound receiver.
 10. The gaming system of claim 1, wherein said selecting means are selected from a group consisting of electro-mechanical devices and buttons on a touchscreen. 20
 11. The gaming system of claim 1, wherein said selecting means are coupled to a voice-activated mechanism for voice-activated selection. 25
 12. The gaming system of claim 1, wherein one or more selected sound preferences are stored on a casino card. 30
 13. The gaming system of claim 1, wherein said selecting means are coupled to said sound processing system via a local-area network. 35
 14. The gaming system of claim 1, wherein said audio-emitting system is selected from a group consisting of a speaker, a speaker system, and a headset. 40
 15. The gaming system of claim 2, wherein said sound tone preference includes at least one of a treble setting and a bass setting.
 16. An electronic gaming system providing a game in response to a wager, comprising: 45
 - a sound processing system adapted to process game sounds relating to said game;
 - an input system adapted to accept sound preference inputs from a player and to forward sound preference information to said sound processing system, said sound processing system adapted to accept signals from said input system and to alter said game sounds in response to said sound preference inputs, said sound preference inputs including inputs for controlling aspects of said game sounds other
 - than a master volume of said game sounds, said sound preferences including a first class of sound preferences and a second class of sound preferences, said first class being controllable by the player, said second class being controllable by an operator.
 17. The electronic gaming system of claim 16 wherein said sound preference inputs include inputs for controlling sound preferences selected from a group consisting of sound field effect preferences, system sounds preferences, speaker settings preferences, and sound tone preferences, each of said sound preferences having at least one setting.
 18. An electronic gaming system providing a game in response to a wager comprising:
 - a gaming terminal for playing at least one electronic game in response to a wager;
 - a central processing unit executing instructions for said gaming terminal;
 - a memory coupled to said central processing unit, said memory storing audio data;
 - a user input device for allowing the choice of one or more sound preferences, said one or more sound preferences being sound preferences other than a master volume preference; and
 - a sound processing system receiving said audio data in a first audio signal, said sound processing system modifying said audio data in accordance with said sound preference to produce a second audio signal.
 19. The gaming system of claim 18, wherein said one or more sound preferences include a sound field effect preference having a number of sound settings;
 20. The gaming system of claim 19, wherein said sound field effect preference includes at least one of a small room setting, a stadium setting, an opera setting, and a concert hall setting.
 21. The gaming system of claim 18, wherein said sound preference further includes a system sounds preference.
 22. The gaming system of claim 21, wherein said system sounds preference includes a standard setting and a thematic setting.
 23. The gaming system of claim 22, wherein said thematic setting includes at least one of a rock theme, a sports theme, a space theme, a wild west theme, an ocean theme, and a jungle theme.
 24. The gaming system of claim 18, wherein said sound

- preference includes a speaker settings preference.
25. The gaming system of claim 24, wherein said speaker settings preference includes at least one of a surround setting, a stereo setting, a mono setting, and a headphones setting. 5
26. The gaming system of claim 18, wherein said central processing unit is installed in said gaming terminal. 10
27. The gaming system of claim 18, wherein said central processing unit is remotely installed.
28. The gaming system of claim 18, further comprising a communication unit coupled to said central processing unit. 15
29. The gaming system of claim 28, wherein said communication unit is coupled to a local-area network for communicating with a remote processing unit. 20
30. The gaming system of claim 18, wherein said user input device is installed in said gaming terminal.
31. The gaming system of claim 18, wherein said user input device is remotely connected to said central processing unit via a local-area network. 25
32. A method for operating a gaming terminal in response to a wager, comprising: 30
- conducting a wagering game via a gaming terminal;
- providing selectable choices having at least one sound preference, said at least one sound preference being a sound preference other than a master volume preference; and 35
- outputting audio in accordance with said at least one sound preference. 40
33. The method of claim 32, wherein providing selectable choices comprises providing selectable choices for one or more sound preferences selected from a group consisting of a speaker settings preference, a system sounds preference, a sound field effect preference, and a sound tone preference. 45
34. The method of claim 33, further comprising: 50
- providing for said speaker settings preference a plurality of settings, including at least one of a surround setting, a stereo setting, a mono setting, and a headphones setting; and 55
- executing one of said speaker settings.
35. The method of claim 33, further comprising:
- providing for said system sounds preference a plurality of settings, including at least one of a standard setting and a thematic setting; and 5
- executing one of said system sounds settings.
36. The method of claim 35, further comprising: 10
- providing for said thematic setting a plurality of themes, including at least one of a rock theme, a sports theme, a space theme, a wild west theme, an ocean theme, a jungle theme, a personal music theme, and a licensed music theme; and 15
- executing one of said themes.
37. The method of claim 33, further comprising: 20
- providing for said sound field effect preference a plurality of settings, including at least one of a small room setting, a stadium setting, an opera setting, and a concert hall setting; and 25
- executing one of said sound field effect settings.
38. The method of claim 32, further comprising changing said at least one sound preference via a local-area network. 30
39. The method of claim 32, further comprising upgrading said at least one sound preference via a local-area network. 35
40. The method of claim 32, further comprising limiting access to said at least one sound preference for different users. 40
41. The method of claim 32, further comprising storing information related to said at least one sound preference on a casino card. 45
42. The method of claim 32, further comprising connecting a personal music player to said gaming terminal. 50
43. An electronic gaming machine providing a game in response to a wager, comprising: 55
- a processor for randomly selecting one of a plurality of outcomes of said gaming machine in response to said wager;
- an input system receiving sound-preference inputs from a player for controlling an audio output of said gaming machine, said sound-preference inputs being associated with audio characteristics of only selected frequencies within an audible frequency range of about 20 Hz to about 20 kHz, said sound-preference inputs being sound-preference inputs other than

a master volume preference input; and
a sound processing system accepting sound
preference information from said input system,
said sound processing system altering said se- 5
lected frequencies of said audio output in re-
sponse to said input system receiving said
sound-preference inputs.

44. An electronic gaming system providing a game in
response to a wager comprising: 10

a gaming terminal playing at least one electron-
ic game in response to a wager;
a user input device allowing the choice of one
or more sound preferences, said sound prefer- 15
ences selected from a group consisting of a
sound field effect preference, a system sounds
preference, a speaker settings preference, and
a sound tone preference, each sound prefer-
ence including at least one sound setting; 20
an audio data source providing audio data for
incorporation into a first audio signal; and
a sound processing system receiving said first
audio signal and modifying said first audio sig- 25
nal in response to a selection of said one or
more sound preferences to produce a second
audio signal.

45. The electronic gaming system of claim 44 wherein
said audio data source comprises a memory at said 30
gaming terminal.

46. The electronic gaming system of claim 44 wherein
said audio data source comprises a remote host. 35

47. The electronic gaming system of claim 44 wherein
said audio data source comprises a user first audio
signal source provided by a user of said gaming
system. 40

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Fig. 1

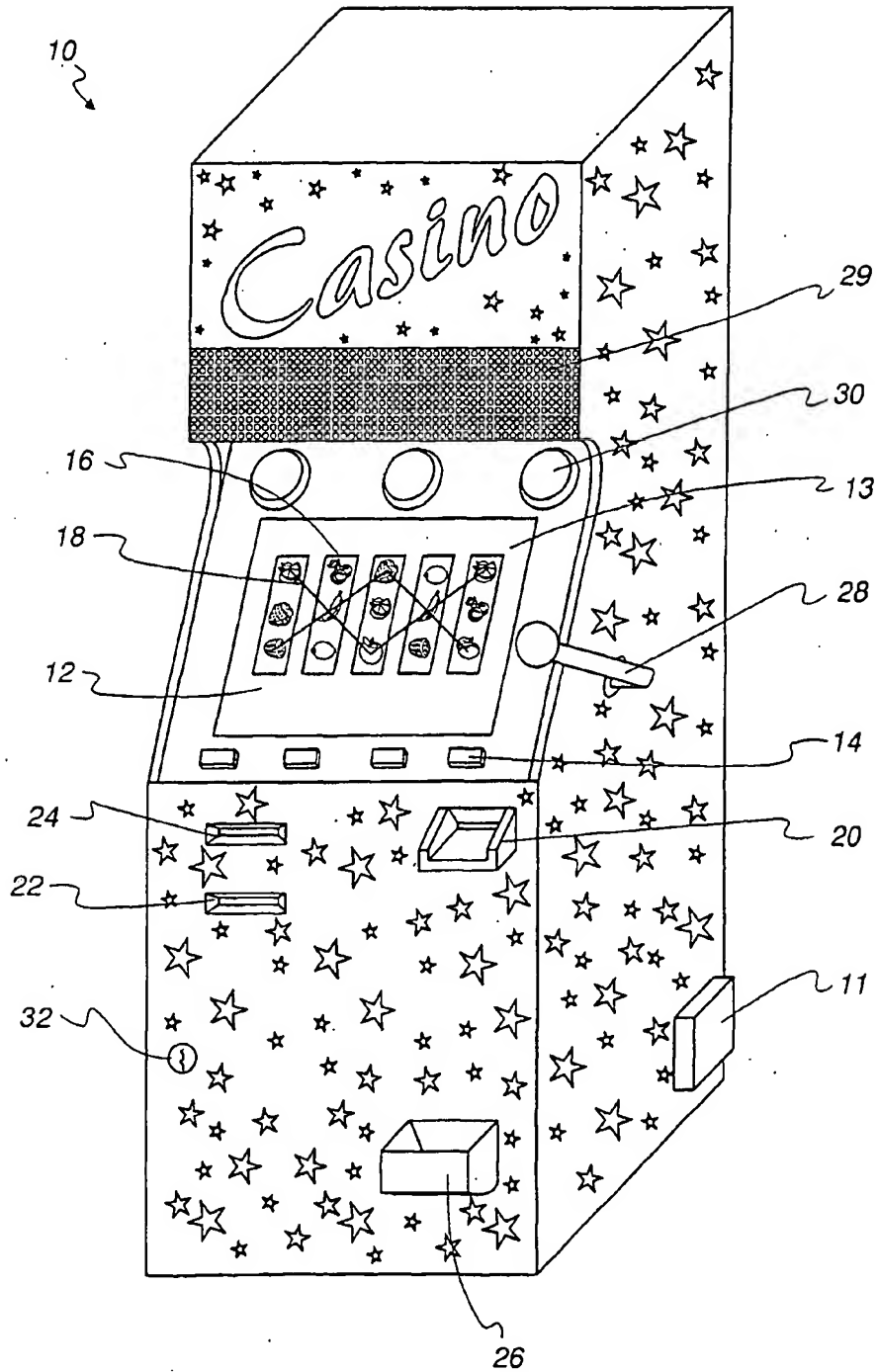
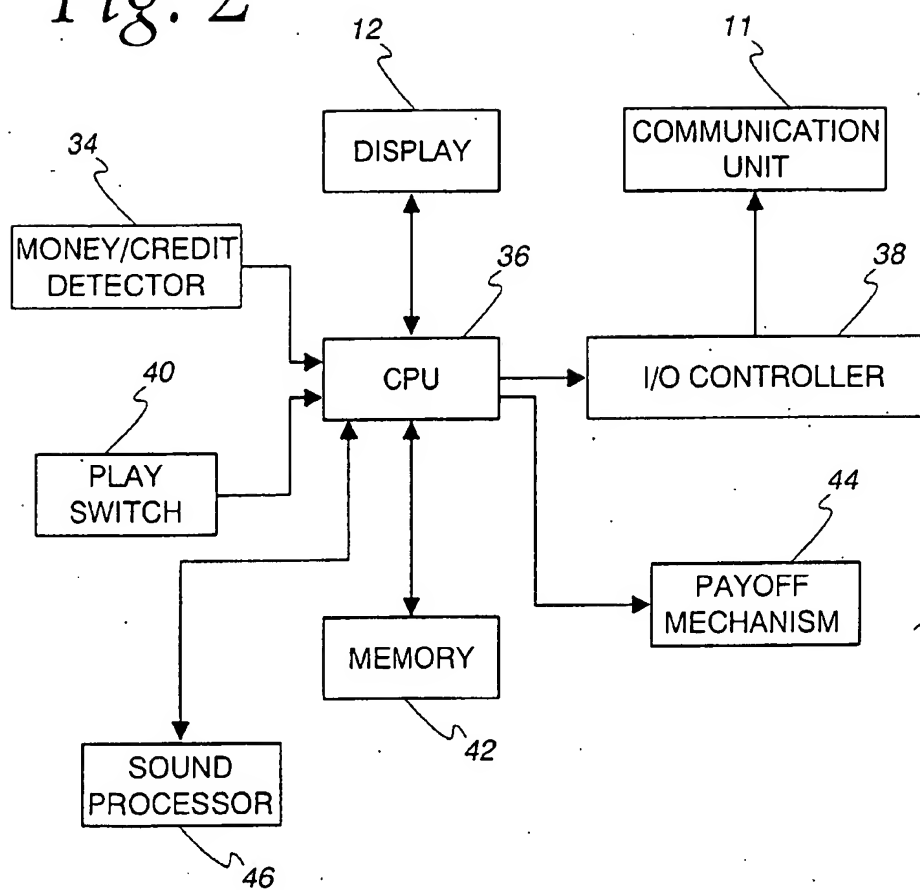


Fig. 2



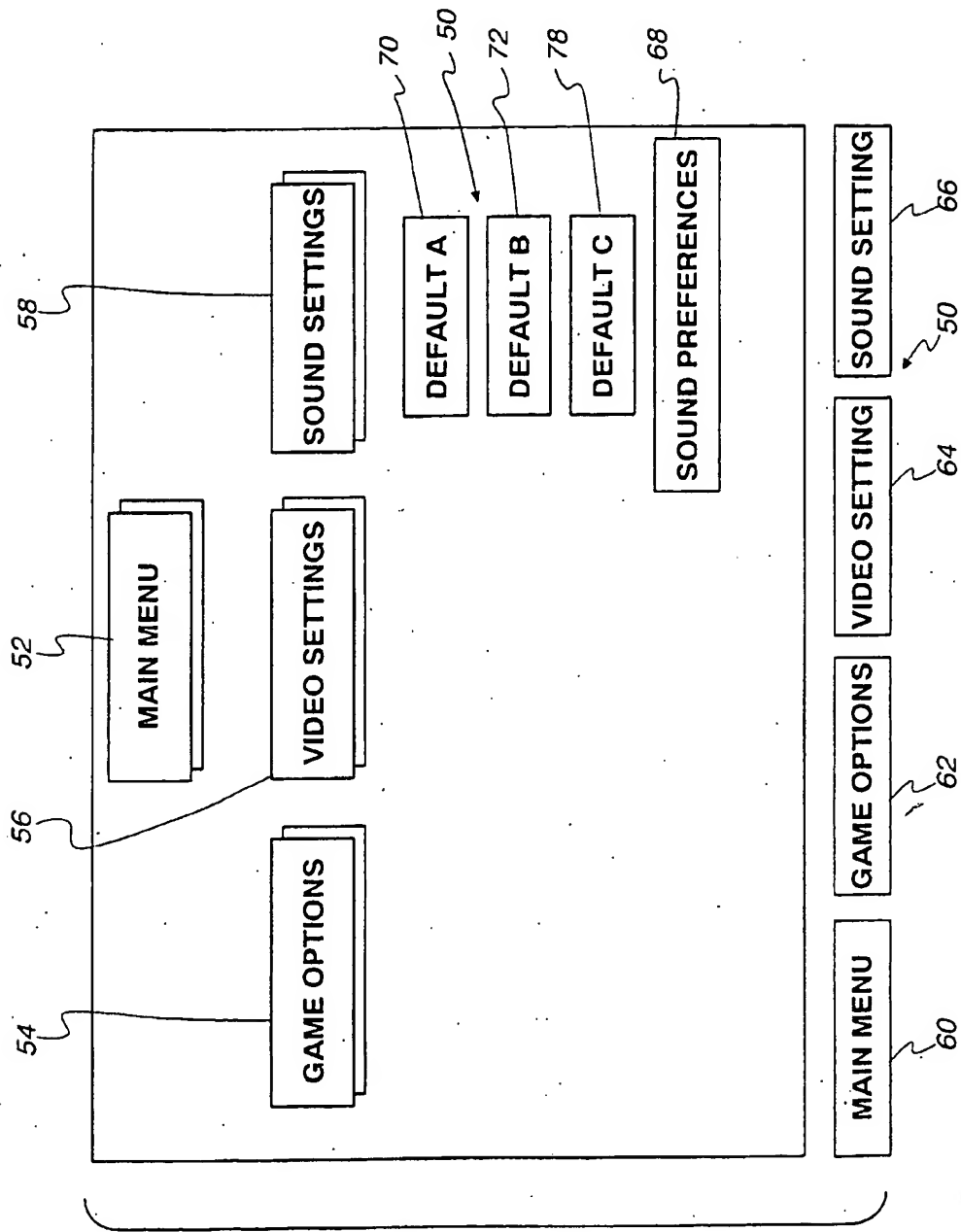


Fig. 3

Fig. 4

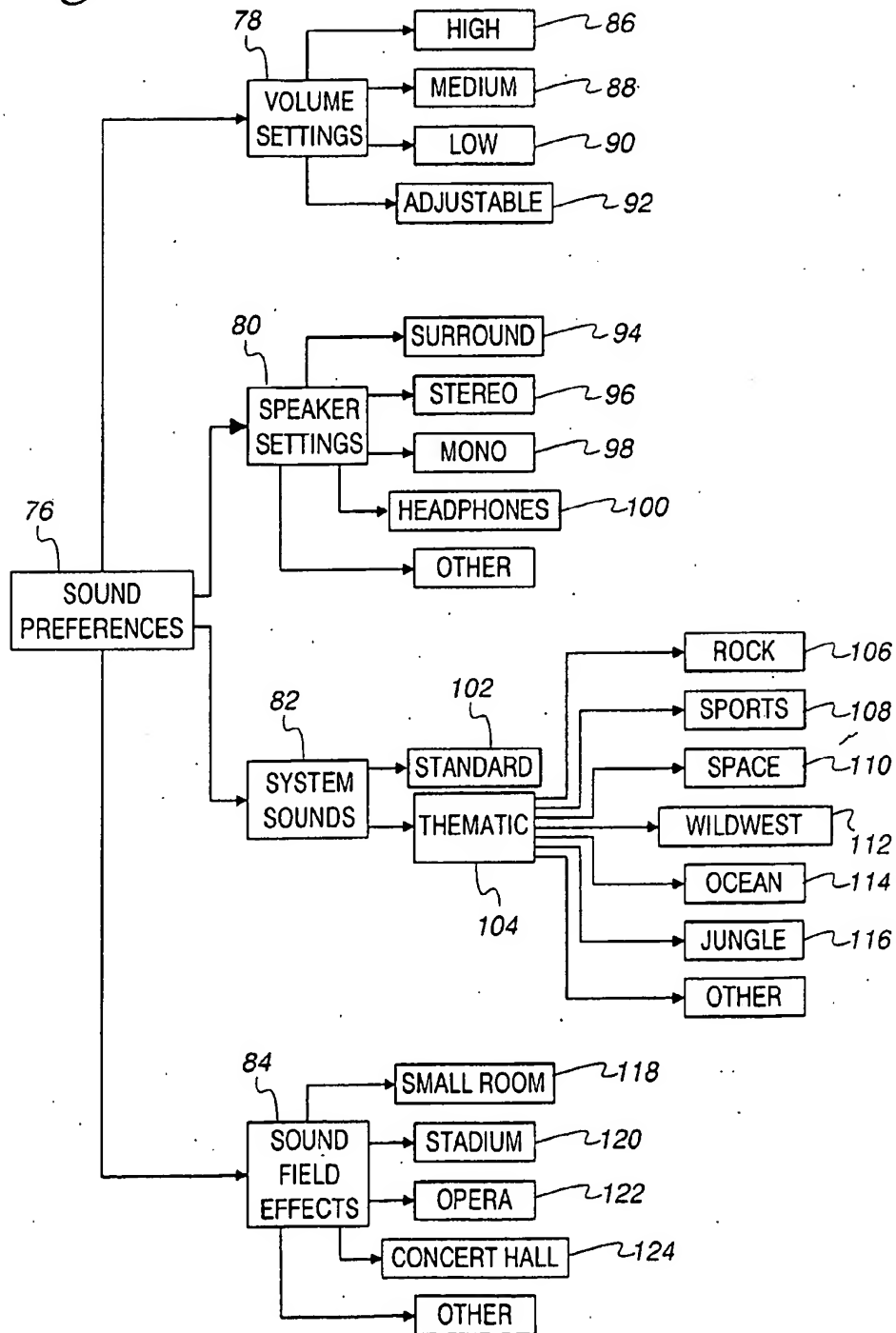


Fig. 5

